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Virginia Wildlife

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COVER: Miniatures are fascinating, especially such brilliant, magnetic bits of vitality as hummingbirds, shown visiting the blooms of the trumpet creeper from which they extract droplets of nectar with their needle-like bill. Rapidity of movement and brilliant plumage make these tiniest of birds the object of wonder and admiration. Our artist: John W. Taylor.

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EDITORIAL

HOW IT BEGAN

GREAT ideas often are inspired, in the minds of perceptive men, in the course of commonplace events and casual conversations. We were reminded of this as we gathered material for the feature article which appears on page four of this issue of VIRGINIA WILDLIFE.

Two persons chanced to meet one day by a clear trout stream in the Blue Ridge Mountains. One was a forest ranger, the other a resident of a nearby community. They spoke, and tarried awhile to eat their lunches. As they rested and talked, they watched a gray squirrel run along the limb of a hickory, and then dart into a hole in a nearby hollow tree.

The local resident remarked that while foresters looked after the trees, they did not look after the squirrel that lives in them, the turkey that roosts in them, or the deer that browses under them. He wondered why. This led to a discussion of the status of wildlife, and of trees, on national forest land.

Wildlife does not belong to the owner of the land on which it lives. The squirrel the men had seen belonged to the Commonwealth of Virginia, but the tree that gave it food and shelter was the property of the Federal Government. The men agreed that this could be a right sorry state of affairs, especially for the squirrel. They pondered the situation thoughtfully, both then and later.

The ranger, A. R. Cochran, was to become supervisor of the Jefferson National Forest. The Virginian, Justus H. Cline, a geologist, was to become a Director of the National Wildlife Federation, vice president of the Virginia Wildlife Federation, and a leader in the Virginia Academy of Science. As the years went by both men became active in shaping the plan that was to bring the squirrel, the den tree, and the hickory nut crop under a single coordinated management program.

A "great idea" was born of the chance meeting, and friendly talk, of these two men on the bank of a mountain stream.

Credit for the successes and accomplishments of the cooperative program of the U. S. Forest Service and the Virginia Commission of Game and Inland Fisheries does not end with these two men, of course. It has taken the enthusiastic effort and support of a great many people in both organizations, and of many officially connected with neither, to make the original idea bear fruit as it has. We are grateful for the spirit of cooperation with which the work is going on today. It has never burned brighter. But it is easy, after 25 years, to accept this kind of a cooperative venture as nothing more than a normal and natural state of affairs—to overlook the obstacles that had to be overcome, in the beginning. It is easy to forget the enthusiasm, the pioneering spirit of adventure, that the men who set the plan in motion brought to their task. Truly, they led us across a new frontier. Richly do they deserve the admiration of the people of Virginia for what they did, and the gratitude of the whole nation for showing what could be done.—J. F. Mc.

LETTERS

Boxes for Bluebirds

WE enjoy your magazine so very much and look forward to its arrival each month. The cover on the May issue is so lovely. We have been trying to encourage the bluebirds to build around our home ever since we moved out here from Richmond. We have special boxes especially for them. Two new ones this year. One pair built early and the young ones have flown out. Now they are busy again today preparing another nest in the same box.

Do wish more people would put up more bluebird boxes. How about suggesting this in your magazine?

Mrs. John B. Taylor
Sabot-Manakin, Virginia

For more on bluebird boxes, see page 25.
—Ed.

Recalls Boyhood

I read from cover to cover every issue of the WILDLIFE, but your editorial in the April issue hit the spot.

Maybe you were not fortunate enough to have been a barefoot boy on a North Carolina tobacco farm. I look at the photo and feel sure that it was I who posed. Now, after 50 years, I still want to go through stubble and corn rows to a creek, with bent pin and can of worms to try my luck with what was known then as "knottyheads."

When you write such an editorial you place me again in the pines, looking for crow and squirrel nests, barefooted and alone but nearer to God than I have ever been before or since. I had very few boyhood companions due to work and distance; so alone I walked into the pines and oaks. Not being aware of the fact at the moment I would stop, breathe and admire the handiwork of something man cannot produce; and then return home to be admonished by my mother to wash my feet, and after a good country supper go to sleep dreaming that I would be another Thomas A. Edison or Woodrow Wilson.

Thanks again for this editorial. I trust that I am not far from spring and that you and I will see many more of them.

Wallace H. Clark
Covington, Virginia

Have Bird Photos

MY husband and I are V. S. O. members and Bird Banding Association members and interested in all kinds of wildlife.

We started banding birds in April 1961 and to date have banded 3,900 birds and 49 species in our own backyard.

January of 1963 we bought a Starteck Kodak camera and have been taking 4"-8" close-up and 10"-16" pictures of birds and we have some excellent ones suitable for the cover of this magazine. They are color slides.

We would like to hear from you.

Mrs. Dorothy L. Mitchell
Newport News, Virginia

Let us look at them! A magazine like VIRGINIA WILDLIFE *can be no better than its contributors make it. We are constantly on the lookout for new ideas, and for new writers, artists and photographers to contribute them.*
—Ed.

Silver Anniversary

Trout fishing is a major recreational activity on the national forests in Virginia.

Commission photo by Shomon

Commission photo by Mullins

THIS month marks the 25th anniversary of a unique "wedding" which has demonstrated how a state and a federal agency can work together harmoniously and effectively to produce more wildlife and more outdoor recreation through the multiple use management of large tracts of publicly owned forest land.

Long known among foresters and game managers as the Virginia Plan, the formal working arrangement between the Virginia Commission of Game and Inland Fisheries and the United States Forest Service became effective on July 1, 1938, although the history of cooperation between the two agencies goes back much farther. As a result, a vast outdoor playground has been developed on Virginia's national forest land, with deer, turkeys and other wildlife restored in some areas to an abundance unknown in the early years of this century.

The new deer herds on the National Forests already have reached the peak in abundance in many places. As the once badly mistreated forests pass through the brushy stage and begin to produce new crops of mature timber, the carrying capacity for deer must decline a bit, and the bumper harvests of the immediate past are not likely to be seen again in some areas. But neither will the scarcity of a quarter century ago. Clearings, timber stand improvements and multiple use management of the land are counted upon to arrest the decline. It looks now as if there will always be enough good deer range on our National Forests in Virginia to keep deer hunting among the top recreational activities.

As the forests have matured, the range has improved for turkeys and squirrels. Ruffed grouse continue to be found in good supply by those sportsmen energetic enough to hunt them. And there are enough bears to provide sport for the really dedicated bear hunters.

Trout fishing is a major activity, and over 200,000 fish are stocked each year in streams on the forests. Native brook trout can be found in the smaller streams and headwaters which provide true "wilderness" type fishing, and the amount of water suitable for the native brookies actually has been increased through the watershed protection and improvement which wise forest management has achieved.

The first deer restocking on Virginia's national forest lands took place in the late nineteen twenties and early thirties, and resulted in the establishment of a few small new herds which proved that deer could be brought back to much of their former range in this manner. Cooperative trout stocking of forest streams began early in the nineteen thirties. An experimental wildlife area, set aside at the request of the Game Commission and named Big Levels Wildlife Refuge, was enlarged and designated a Federal Game Refuge in 1935. It was used to develop and demonstrate forest game management techniques and practices.

The tree, the squirrel that lives in it, the turkey that roosts in its branches, and the deer that browses under it, were put under a single co-ordinated program of management.

Space itself is a rapidly dwindling resource in many places. Virginia's national forests, now well stocked with game, provide plenty of room for a growing population of sportsmen.

Although these early cooperative activities were based upon nothing more formal than mutual goodwill between state and federal personnel, they were effective enough to impress sportsmen and conservationists with their merit. The unexploited possibilities were immense. But mere stocking, protecting and experimenting were not enough, and to manage the game and fish as a perpetual annual crop on all the national forest lands in Virginia would take more money than hitherto had been available. Would sportsmen foot the bill?

In 1938 the Virginia General Assembly passed a bill requiring a one dollar fee for hunting, fishing or trapping on the National Forests, and the same year the Forest Service and Game Commission entered into their formal agreement stipulating how the revenues from these fees would be spent. Protection and restocking projects were to be expanded, and a widespread *habitat improvement* program was to be undertaken.

The first year only 11,000 of the one dollar National Forest Stamps were sold, but public acceptance of the idea grew rapidly; *last* year over 100,000 were sold—a ten-fold increase in the utilization of National Forest lands for recreational hunting and fishing. Would sportsmen foot the bill? Yes, they would, and they did!

At the outset wildlife management on the forest was a crude and clumsy undertaking by today's standards, but a lot was accomplished nevertheless. Clearings were hacked from the forest with hand tools in much the same way as the early settlers carved their homestead from the wilderness. The recognition of wildlife's rightful place in forest management had been a long time in coming, but the work was pursued with an enthusiasm that helped make up for lost time. Techniques that had been tried and proven successful on the Big Levels Wildlife Management Area were applied to both forests.

It was recognized by this time that wildlife was generally a product of the forest *edge*. The establishment and maintenance of clearings was one of the most important parts of the early wildlife developments. Some of these were classified as "agricultural clearings" and were seeded to wildlife food crops. Others were just forest openings or slashings to encourage natural low-growing food plants. These had to be cut back periodically to prevent their return to forest cover. The original plan was to develop ¼ to ½ acre clearings at half-mile intervals through the forest. The poor water-holding ability of the young forest coupled with severe drought made waterholes a desirable wildlife development. These were incorporated with clearings wherever possible.

Since natural plant succession tended to close in forest openings rapidly, logging roads and log-landings were seeded to grass and de-brushed regularly to keep them open. Trails were developed to create openings and to facilitate hunter access. Abandoned farms were cultivated and kept clear of brush.

A great deal of planting was done in the early phases of the program to facilitate the distribution of desirable food and cover plants. Pine trees and other conifers were planted in strategic locations to provide cover. Fruit trees, nut trees and grapevines were planted throughout the forest to increase the food supply. Often these food plants were raised from cuttings by the game managers and later pruned to increase their food production.

Another technique which accomplished the same results as planting was releasing desirable plants from competition. Surrounding trees and brush were girdled or cut allowing the selected conifer or fruit trees to prosper. These situations, referred to as "micro-habitats," were developed throughout the forest by the game managers and their work crews.

Deer stocking, which had not been carried on extensively before the cooperative wildlife program was initiated, was stepped up and continued for many years until herds had been reestablished throughout the suitable range. Most of the deer were purchased from out of state. Turkeys reared at the State Game Farm were widely stocked throughout the forest area during the early years of the program. The first

Cooperative trout stocking began before there was any formal joint plan between Federal and State agencies. Now over 200,000 trout are released annually in forest streams.

Commission photo by Kesteloo

Commission photo by Harrison

Commission photo by Kesteloo

"Breaks" in the solid forest cover, such as this clearing, provide the diversity of wildlife food and cover characteristics of the forest edge.

Commission photo by Shomon

Before mechanization stepped up the pace in the 1950's, clearings for wildlife management were hacked out by hand tools in much the same way that early settlers had carved their homesteads out of the wilderness.

birds were so domesticated that survival in the wild was beyond their capability. Later birds of a wilder strain were successful in establishing some new flocks, but real success in turkey restocking didn't occur until wild birds were trapped and relocated.

During the fifties the main trend was toward mechanization of game management development work. Farm tractors and bulldozers replaced hand tools and the game managers outfitted with this new equipment could do more work. As the scope of the work caught up with available funds, emphasis changed from a program of broad scale new developments to one of maintenance and improvement.

Although the original concept held by founding fathers of the cooperative plan was to accomplish the desired manipulation of wildlife habitat by carefully planned forestry practices, this has become practicable only in recent years. The current trend is toward creating the desired forest openings through controlled timber sales. Twenty-five years ago the young forest was not ready for timber cutting, and the current pulpwood market has not developed.

Plantings for wildlife still have an important place in forest-wildlife management, but the emphasis is now toward species which require a minimum of care. Among these are autumn olive and Chinese chestnut which are being used for wildlife plantings. Once established they hold their own in spite of heavy use by game species. Mixtures and varieties of grains and grasses are constantly being changed as new information on their value and use is obtained.

Herbicides and chemicals which control plant growth open up a great new field of possibilities for wildlife and timber management. Herbicides were and are being used to make wildlife clearings and to alter the vegetative cover to a more suitable variety for both timber and wildlife. These chemicals have even been used experimentally for the creation of hunter access trails.

Coordination is a key word now in the relationship of forestry and wildlife management. Forestry practices are designed to produce a maximum beneficial effect for wildlife and wildlife developments are planned to fit into the forestry program. Timber stand improvement work is becoming a big boon to game species as the desirable trees from a forestry standpoint often provide good wildlife habitat as well.

Many technological advances offer new possibilities for improving forest game management techniques. Research and experimentation of the type begun on the Big Levels Area in the thirties is still being carried out by the Virginia Cooperative Wildlife Research Unit, an organization jointly sponsored by the Virginia Game Commission, the U. S. Fish and Wildlife Service, Virginia Polytechnic Institute and the Wildlife Management Institute. Their studies carried out on the 10,000 acre Broad Run Area in the Jefferson National Forest probe such problems as the value of clearings and other wildlife and forest management practices, the nutritional quality of browse plants, census methods, factors affecting wildlife distribution and the cause, prevention and control of wildlife diseases.

A study on 100 square miles (64,000 acres) of forest land had indicated an annual recreational use amounting to 691,833 man hours. Expanding this to the 1,457,442 acres of the two National Forests in Virginia gives a figure of nearly 16 million man hours of recreation per year. With per capita outdoor recreational demands expected to double by 1980 and with the entire population calculated to double by the year 2,000, it is easy to see the value of areas that can provide recreation of such quality and in such quantity.

The cooperative agreement between the Commission of Game and Inland Fisheries and the U. S. Forest Service has turned out to be a farsighted venture, perhaps even more so than was realized by the farsighted men who embarked upon it. Certainly they could hardly have known how effectively they anticipated in Virginia the coming national concern with outdoor recreation that was to cause a Washington "flap" twenty-five years later. The late Justus H. "Judd" Cline, then a retired geologist and senior citizen of Stuarts Draft, and an unofficial but inspiring presence during the momentum-gathering days of the program, once remarked that it was his ambition to help "restore in these mountains the scenes, complete with wildlife, that I knew as a boy in the years not long after the Civil War." Today this sounds like almost too modest a statement of aims, in view of all that has transpired, and what is still going on.

An aerial photograph shows how wildlife clearings can extend the "edge effect" throughout large blocks of forest land.

Commission photo by Kesteloo

HERBICIDES IN FOREST GAME MANAGEMENT

By HAROLD A. TRUMBO
Supervising Game Biologist

IF you happen to stumble upon an odd-looking opening in the forest while beating your way up a ridge or hollow hunting grouse, or making your way into a cove or oak flat looking for turkeys, chances are that you have come across an area that has been treated with a herbicide. It isn't so odd that you happened onto the opening back on some remote ridge top or in a hollow. It was by design that these openings were established in these locations.

They may look unusual. In these approximately one-fourth acre areas there are standing dead trees and others fallen in a crisscross fashion. Upon closer inspection you will observe briers, huckleberries, wild grasses, annual weeds, and other plants that respond to sunlight. This is the result of one use of herbicides as a game management tool—creating permanent openings in the forest canopy.

Forest openings are used extensively by game species. These openings provide a source of weed seeds, fruits, forage, insects, and are used as a "playground" and "sunning" area. Grouse nest near such openings because of the availability of insects necessary for young poults.

Openings have been created in the past by various methods, and were either planned or resulted from forest management practices. The first planned areas were created by hand (ax and brush hooks) and were primarily established to produce sprout growth for deer when herds were being reestablished. Most of these areas grew up and the opening was lost. Later, crawler tractors and bulldozers were used to clear areas which were then seeded to grasses, clovers, and grains, singly or in combinations. These became permanent openings, but there were many limitations as to where the equipment could be used to create them. After certain chemicals (herbicides) were proven satisfactory in controlling woody plants, they were used in game management in eliminating undesirable sprout growths in permanent open areas and along forest access roads and trails. This was accomplished with liquid herbicides in hand sprayers for spot treatment, or motor-operated rigs mounted on some type of vehicle. Herbicides applied as a basal spray were used to release pine plantings, to produce timber for the future. To date, 2, 4-D and 2, 4, 5-T, used separately or combined, have been most successfully used in these operations.

An industrial use of herbicides in maintaining utility rights-of-way has proved beneficial to wildlife. This has been a controversial issue in certain areas, as some food producing shrubs and trees are destroyed, and some of the esthetic value of the forest is lost. But use of herbicides does hold in a permanently open condition vast areas which probably would never be reached through other means. Sections of these areas planted to desirable grasses, grains or shrubs make them even more attractive and useful to wildlife.

The Forest Service has, in the past, used chemicals to remove undesirable trees on a limited scale. More recently, through an expanded program, undesirable species are being removed primarily by two methods: frilling the stem and applying a herbicide to the frill, and by a double-hack girdle. In frilling, over-lapping ax cuts are made completely around the stem, cutting through the outer and inner layers of bark. A herbicide is then applied by the use of a hand sprayer to insure a complete kill of a large percent of undesirable tree species. The double-hack girdle consists of parallel ax cuts around the stem several inches apart, with the bark between the cuts being removed. Herbicides are not applied, and this method produces a crown-kill, after which sprouting usually will take place.

The objectives to be obtained in certain forest areas determine which, if either, of these two methods will be applied. These objectives can be, and are being, tied in with game management requirements. In many areas where deer populations exist and there is a shortage of the sprout growth which constitutes a great portion of a deer's diet, the double-hack method can be used to create sprout growth. Where a *permanent* opening (rather than stimulation of sprout growth) is desired within an area where the "frill and treat" method is being used to eliminate undesirable forest trees, the operation can be intensified and a more permanent opening will result.

A similar arrangement can be made in timber and pulp sale areas. Selected sites within the sale area can be as nearly clear-cut as is practical, and the stumps and remaining vegetation treated with herbicides to keep the sites in an open condition.

Although the opportunities to create openings by methods are numerous, there are vast areas that remain unbroken for such reasons as inaccessibility, lack of sales possibility, and low priority for timber stand improvements. Through experimental work in creating additional wildlife openings, one chemical marketed as Dybar was found to show good promise. This herbicide, scattered on the ground around the base of the stem, gave effective control of most woody species at a low rate of application. It is non-selective, and the root systems of untreated trees extending into treated areas are likely to be affected. But this is hardly a limiting factor because the area selected to receive treatment can be located so as to avoid the possibility of killing desired trees and shrubs nearby. Also, since these areas need be only about one-quarter acre in size, the value of the open area to wildlife can offset the loss of the few trees involved.

Aside from the effectiveness of this chemical in opening the forest canopy, the treated areas are invaded by annual plants the following growing season, and later perennials become established. The residual effect of the chemical was tested by setting out three species of pines in treated areas in the spring following June and July treatments. Losses were negligible, and could not be definitely attributed to the chemical. This herbicide is well suited to use in areas where it is impractical to utilize one of the other methods of creating openings. Being a granular form, it can be readily transported into almost any area and no equipment is required for application.

In all wildlife management areas it is necessary to determine what the needs are, what management practices are applicable, and which ones can feasibly be carried out. All of the methods mentioned, with the exception of aerial applications, are being used in forest game management today in areas where a need for additional openings in the forest exists. Surely herbicides offer no magic solution to all of our forest game problems, but they have found their place in game management along with such better known tools as planting, cutting, cultivating, burning, and wildfire suppression.

By JERRY CHIAPPETTA

Personal experience prompted Jerry Chiappetta to write this article, which is reprinted from Dodge Magazine. When a deer leaped in front of his car, Chiappetta couldn't stop. His car was nearly demolished; his wife and three children ended up in a hospital; the deer was killed. With new curiosity, he investigated and found that deer and cars are a highly dangerous mixture in every part of the United States. Chiappetta is outdoor editor of The State Journal of Lansing, Michigan.

A drive in America's countryside can be a refreshing thing with nature's panorama unfolding before the windshield of your car—your giant screen through which you view the country.

But there is a hazard engineers can't fence out; a hazard lawmakers can't legislate against; a hazard that can ruin your motor trip—maybe even you or your family. This is the hazardous game of dodging deer and other big game that gets worse with each new driver, with each new mile of high-speed super highway.

Actually, hitting deer is one of this nation's most startling, unpublicized motoring problems today as we discovered during a five-month 50-state survey of this highway headache.

We learned for the first time that in 1960, 113 deer and other large animals were killed on our highways every single day of the year, or 41,311 for the year BY ACTUAL COUNT.

One of the many wildlife experts we interviewed for this exclusive study said that for every single big game animal reported as "known killed on the roads, there must be at least 50 others hit by cars or causing accidents that are never reported to us." If this specialist is anywhere near correct, and I believe he is, this means there are more than two million animal-caused mishaps every year in the U.S.A.!

Our study was concerned with big game animals only because no state even attempted to keep records on the millions of rabbits, pheasants and other small creatures which are killed each year or cause motorists headaches and nervous moments on the roads.

We asked for statistics on only known dead deer and we came up with some fantastic results. Pennsylvania had the most shocking report—about 7,500 deer killed every year on highways.

Other states with high kills on the roads included:

California, about 5,000 per year; Michigan 3,000; New York, New Jersey, Oregon, Vermont, Virginia, Washington and Minnesota all had over 1,000 kills per year.

No state escapes the problem. Even Hawaii and Alaska were included. The 49th state reported 44 moose killed by motor vehicles. Hitting one of these one-ton-plus animals can be terrifying. One woman on the Maine turnpike was killed in such a mishap.

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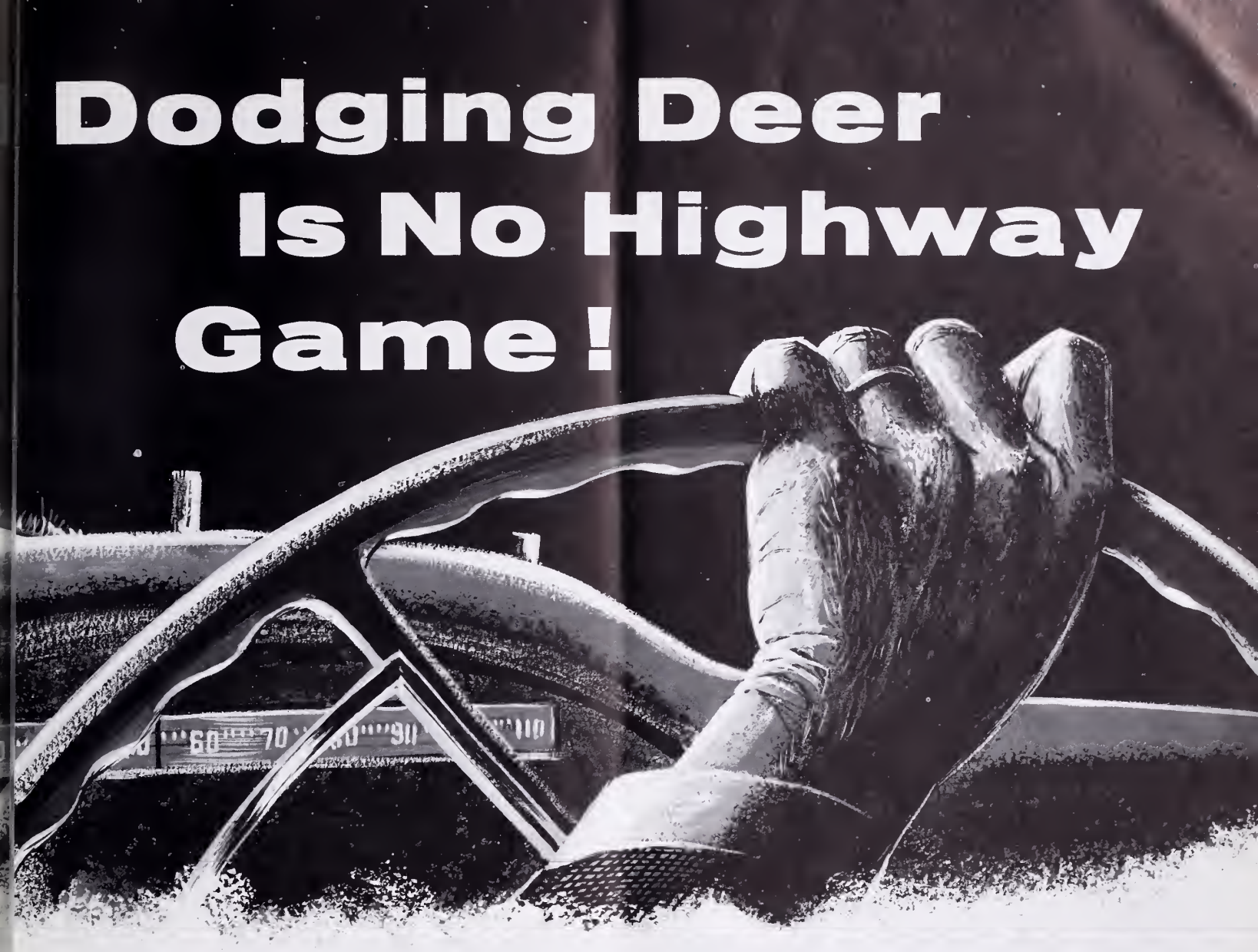
Dodging Deer Is No Highway Game!



Our purpose here is not to frighten any motorist but to point out by actual state-by-state figures how serious this problem is. And there is nothing anyone—except the driver—can do about it.

We can't change the weather, but we always like to know what the report is like. So knowing the habits of deer and what makes one want to cross a highway is halfway toward avoiding a collision with one of these fine animals.

We learned that spring and fall are the two most dangerous seasons, although deer are always crossing. In the spring, deer and other large animals are on the move after a hungry winter in the deep woods. They are looking for the lush, green grass along the roads and looking for the salts used in many states to melt ice and snow.

In the fall, hunters and dogs keep the animals stirred up and on the move. The mating instinct also keeps the animals on the move.

Most large animals involved in highway collisions—deer, bear, moose, antelope, mule deer and blacktail deer—are night creatures who hole up during the daylight hours. Therefore most of them are on or near highways from a few hours before sundown until a few hours after sunrise.

Don't relax your guard at high noon. A dog or hunter may kick up a deer and send him bounding your way as you drive by!

Dozens of interviews with game experts, traffic safety officials and policemen who are veterans of deer country highway patrols produced the following suggestions for defensive driving in big game country:

- First, don't laugh at "deer crossing" or "game area" warning signs. Slow down in these areas, especially at night and invite your wife or other passengers to help you keep a big game lookout.
- Deer don't necessarily cross right at the sign, so don't relax too much just because you pass such a warning. Driving, as any good motorist realizes, is a full time job. Having extra eyes scanning the edge of the highway for animals is a big help.
- Next, if you see one deer leap across the road, look out for others nearby. They travel in pairs or small groups most of the time.
- If you see a deer "frozen" by your headlights on the roadway, blink your lights, sound your horn and immediately slow down. Stop if necessary. Don't trust the animal to get out of the way. Blinking your lights can break that trance and allow the animal to get out of the way.
- Finally, the experts suggested that should there be a deer in your lane and it is impossible to stop safely—KILL THE DEER rather than swerve into the oncoming traffic or lose control of your car and wind up in a ditch!

These tips are from veterans in the field who hope your next drive through big game country will be a safe and enjoyable one. After all, the deer you don't kill might be next year's hunting trophy.

Fourth in a series of articles on some of the favorite angling hot spots in Virginia.

SPOT IT'S HAMPTON ROADS FOR

By LOUIS BAIN
The Times-Herald, Newport News

THE spot is a family fish.

That isn't a reference to the tasty pan fryers' habit of schooling, the usual form of community life for water creatures. It's a reference to the fact that the firm little scrappers are the kind of fish that the entire family can and does enjoy catching.

Further, the spot's distinctive taste is one that's enjoyed by the whole family when they're lifted a crisp golden brown from the skillet and placed on the table. If a survey of the adult population of Tidewater Virginia were ever made regarding seafood preferences, spots would be at the top of the list. And what's more, it would reveal that most of the fish fanciers developed their seafood taste buds as kids on spots.

There are three big reasons why spot fishing is attractive to the entire family. Spots are plentiful. They're small enough to be successfully boated by small children and inexperienced women, yet scrappy enough to provide entertainment for adults who usually chase the larger game fish. And they inhabit in large numbers the relatively calm waters of Tidewater's bays and streams where it's plenty safe to take the whole family out for a day of fishing fun.

Among such safe waters, probably no place is fished and enjoyed so much as vast Hampton Roads—large enough to provide waterfront and anchorage facilities for the busy seaports of Newport News and Norfolk-Portsmouth, with plenty of room left for hundreds of private pleasure boats of various sorts.

When the spots are having a good season, such as last year, they can be found in most any part of Hampton Roads and the James River around Newport News Point. The large ones, of course, center in the deeper areas, but they're so plentiful that they also spread up on the shoals within easy reach of shore anglers.

In fact, from late June or early July, when they first appear in numbers, the spot is the most sought-after fish in the harbor's waters, up until late September or October, when they depart again for southern wintering grounds.

There's a certain fascination about spot fishing that holds even the hardy variety of sports fisherman, who in early spring or fall might be found out in the rougher waters of Chesapeake Bay seeking the murderous bluefish, cobia or rockfish. When the spots are in season, these fellows can be counted on to spend a good portion of their fishing hours in the relative calm of Hampton Roads, hooking spots. May-

General view off Hampton Bar shows various sized boats drifting through anchorage with big aircraft carrier in right background.

be it's the change of pace, from the heavy trolling gear of the Bay for the light-action rods and small reels that are so effective with the spots.

While most any angling gear can be used for spots, the light equipment is more effective and makes the fun more enjoyable. This permits the use of small closed- and open-face spinning reels, which are pleasant to operate and simple enough for even the smallest youngster to master.

Spinning gear or the small level-wind revolving spool reels, combined with light-action rods and light lines, ranging from six and eight pounds to twelve and fifteen pounds, are in general use in the Hampton Roads spot fishing grounds. The rig usually consists of a simple two-hook arrangement which can be purchased at any sporting goods counter, or made at home, and a No. 4 hook is plenty large.

The light-action rod is one of the keys to spot fishing success. Spots are bottom feeders and the angler who injects a frequent bouncing action into his bait by short flips of his rod, similar to the action required for striped bass, will get more bites and the motion seems adequate enough to hook the spots as they nibble the bait. Barely a dip of the wrist gives the exact amount of action with a light tip rod.

Because the sport in Hampton Roads calls for bottom fishing in depths ranging from twelve to eighteen feet up to forty or more, the light line is essential if an angler wants to hold bottom without the use of heavy lead sinkers to offset the strong tides. After all, a five- or six-ounce sinker can take a lot of fun out of boating a six- to eight-ounce

fish, even though he's capable—ounce-for-ounce—of as much scrap as any of the more rugged gamesters like blues and rocks. But hold bottom you must.

The bottom-feeding spots move in vast seemingly inexhaustible schools throughout Hampton Roads, shifting with the winds and the weather from the deep holes and channel areas up onto the shoals, feasting on small marine life, particularly around oyster beds. Their tastes are not as finicky as some of the other saltwater fish, and sometimes they seem to vary from day to day between bloodworms, peeler crabs and shrimp, the three sure-fire tempters. But it's a safe bet that you'll come back with a good catch of spots if you venture out any day with either.

Drift-dragging is the most productive approach to the spots, and the direction of the drift depends upon the tides —incoming or outgoing. It's usually best to boat out to the

Harrison A. (Smokey) Tillman cranks in a nice spot. Note springy bend in his light rod. He's using a small open-face spinning reel.

Forest Bain, author's wife, proudly displays how they look when you hook two at a time.

anchorage areas, going upstream or down, depending upon the tide, cut the motor and let the boat drift. Chances are, hardly a minute will pass after the rig hits bottom before a nibble is felt, particularly if the angler is using the recommended light rod.

In another minute, he'll crank in his first spot, and the fun has begun for the entire boating party. The next high mark will be the first one who hooks two at the same time, and then the conversation will settle down to comments on the sizes of the various catches as they're boated.

Chances are as the boat drifts over the deep waters, the tempo will increase, causing another flurry of enthusiasm over what a good day it turned out to be for fishing. Pretty soon, everyone in the boat has lost count of his particular total and the catch box or bucket has passed the halfway mark.

Then the tempo slacks off as the boat moves away from the big school that provided the fun. The thing to do is crank up the motor, move back up against the tide, and drift down again.

It might occur to some to suggest dropping the anchor where the fish seemed to belt the lines the best, but the veteran Hampton Roads angler in the lot will point out that it's that drift-dragging effect, causing the bait to bump along the bottom, that attracts the fish. This is true of all forms of bottom-fishing in Tidewater's bays and streams.

After a couple passes through the schools, one begins to understand the lure of spot fishing—why it attracts even the game fish enthusiast—as the *Oh!* comments soar over hooking maybe two at a time or an eight-ounce eye-opener, or an *Aw!* marking the loss of a big one, all generate a general feeling of laughing-good comaraderie from bow to stern, whether it's a 12-footer, or a 30-foot cruiser.

Returning back up against the tide, one thoughtful member of the party will probably turn to cutting bait, remembering the friendly argument during the height of the last foray over who'd stop and trim crabs to replenish the bait that had begun to disappear all too fast.

When the day's over, the catch should total well in excess of one hundred, if there are more than two or three in the boat, and may reach close to two hundred.

This might sound wasteful at first, because only a church fish-fry could dispose of that many spots before they'd spoil, but the old-timer in the crowd will be glad to have what's left after everyone takes enough for supper. He will clean and deep freeze enough to last through the fall months, and if there is still more, he will salt them down to eat in the winter.

Spots are small, suitable for pan frying. Keepers usually vary, depending on how the catch runs, from six ounces on up to ten or more. Anything over twelve ounces is termed citation size, acceptable for entry in the Virginia Saltwater Fishing Tournament, which last year saw the championship go to Warren Bennett of Cape Charles with a one pound twelve ounce whopper hooked in waters near his home.

In Hampton Roads one of the most popular grounds is off Hampton Bar, which ranges from Newport News Point several miles eastward to the mouth of Hampton River. Here the spots move back and forth, with the smaller ones venturing up on the shoal waters of the bar in good weather and moving back out to the deep anchorage waters adjacent to the main ship channel in bad weather. The big ones

Photos by the Author

Mrs. Selma Dunn of Hampton displays string hooked in a half-hour trip. Note distinctive black dot behind fish's gill, source of the name, "spot."

usually hang around the deep water.

Another popular grounds, particularly for anglers living on the Norfolk side, is west of the Wool Island-Tunnel South Portal Island complex at the entrance to Hampton Roads opposite Fort Monroe.

But these are not the only places by far—only two where they can be found in heavy concentrations. The spots can be found in every reach of the vast waterway.

While spots far outnumber any other type fish in Hampton Roads, there are others which can be pretty tough customers, such as croakers, trout and rockfish. That's why the ultra-light lines usually associated with freshwater fishing aren't recommended.

Then, too, there's always the chance of hooking a dogfish, who'll give even the big game fish angler a bit of sport before he's brought to boat. Or the ugly toad fish, a tough-jawed oyster-cracker. Every trip will see at least one or two of these brought to the surface, much to the disgust of the disappointed angler who, through inexperience, might have thought he'd hooked a nice flounder, also found in scattered numbers on the bottom of Hampton Roads. If he doesn't know how to unhook this cruncher, who can snap off a finger in his enormous jaws, he'd better turn the whole affair over to the veteran in the crowd, who'll be glad to do the job, probably with the jest that someone's gotten a rare "Carolina Rockfish."

The spots usually come in in quantities during the first week in July. Last year one of the first Peninsula boaters to meet the spots was Harrison A. (Smokey) Tillman of Newport News, who went out aboard his boat Queenie with his fishing side-kick, Ray Garth, early in July to first detect the spots in the Lower Chesapeake Bay around Thimble Shoal Channel.

With the changeable weather around last July Fourth, the fish wavered in their inward course for a week or ten days before entering Hampton Roads to establish summer residence and end Smokey's game fish expeditions out into the Bay. With the mild early-fall weather last year, the spots remained until the final week of October, a rather late departure, but one thoroughly agreeable to Tidewater anglers, who had noted a dearth of the fish in the 1961 season due to a poor 1960 spawn.

Spawning last spring, however, was good, according to the Virginia Institute of Marine Science, and this year will prove another big one in Hampton Roads and other Tidewater Virginia streams and bays.

Buggs Island Regatta

ROANOKE River Post 8163 at Clarksville, Virginia, claims the distinction of being the only Veterans of Foreign Wars Post in the United States to sponsor boat racing regattas. Ten years ago, the Post decided that the beautiful 800 mile shoreline of Buggs Island Lake (Kerr Reservoir) should attract boating enthusiasts, and the first regatta was planned.

The first Buggs Island Lake Regatta was a complete success, bringing out a crowd of more than 15,000 spectators who thrilled to the daring of racers from all parts of the nation.

July 27 and 28 this year will mark the ultimate goal for Post 8163: running of the Eastern Divisional Championship Inboard Races for world records. Clarksville was selected as the site for this boat racing spectacular, which compares with, and often overshadows, the national event. This race is sanctioned by the American Power Boat Association. Clarksville's bid was accepted over twelve competitive cities, which is indicative of the perfect setting. Clarksville received seven votes.

In past regattas at Clarksville two world's records have been broken, one by Bill Tenney of Dayton, Ohio, in Class B racing hydro with a speed of 67 miles an hour in his eight foot long boat with an outboard motor. Another was established in 1956 by Harry Bickford of Hampton, Virginia, in Class E Service Runabout at a speed of 60 miles an hour.

The Eastern Division Championship Inboard Races takes in 24 states in the eastern division of the country. During the event the Kilo trials are run when racers endeavor to set new world's records. Indications are that records will be set at Clarksville this year with the Who's Who of boat racing on hand.

The Tenth Annual Regatta at Clarksville this year has drawn enthusiastic support from throughout Virginia, including the State Government, the Virginia State Chamber of Commerce, and the Virginia Travel Council.

The regatta queen will be crowned by Lt. Governor Mills Goodwin, with other celebrities on hand.

The site of the regattas at Clarksville is unsurpassed in other parts of the country. Spectators view the races beneath the shaded incline of beautiful Occoneechee Park. There is ample room to accommodate 25,000 spectators in comfort and throughout the viewing area are picnic tables, comfort facilities, and other conveniences. Clarksville is the only town located directly on the reservoir impounded by the John H. Kerr Dam. The lake and Occoneechee Park are both under control of the United States Army Corps of Engineers.

The lake, with its vast park adjacent, attracts more than two million visitors each year. Marines and camping facilities are taxed to near capacity each season.

The V.F.W. sponsored annual regattas have drawn national attention and the veterans this year feel the largest crowd ever assembled in Southside Virginia will be on hand for the two-day event of thrills and spills.

VIRGINIA WILDLIFE ☆ ☆ ☆ ☆

CONSERVATIONGRAM

Commission Activities and Late Wildlife News . . . At A Glance

BURKE LAKE OPENED IN SPECIAL CEREMONY. A special ceremony at the Burke Lake Park facilities in Fairfax County on May 25 officially opened the new 218-acre lake, largest built to date by the Commission of Game and Inland Fisheries, to public fishing. H. G. Bauserman, Sr., of Arlington, Game Commissioner for the Tenth District, made the official opening address. A crowd numbering in the thousands turned out to take advantage of the fabulous fishing which began at noon in the lake which had been closed since construction began in the fall of 1960.

The lake was constructed by the Game Commission at a cost of $140,000 on land provided by the Fairfax County Park Authority. It was completed and received its initial stocking of bass, redear sunfish, bluegills and channel catfish in late 1961. The heavy fertilization possible because of the small watershed area is expected to result in a fish production of 30,000 to 40,000 pounds annually.

A tagging experiment conducted in early April of this year gave some indication of the lake's fishing potential when the crew of fishery technicians caught, tagged and released 777 bass in a few hours using standard fishing tackle.

There are two public access routes to the lake, but only one was open on the first day.

Boats are available for rent at the lake concession, and facilities for overnight camping and picnicking including sanitary facilities have been constructed by the Fairfax County Park Authority on the 256-acre tract adjoining the lake.

FREE VIRGINIA BOAT LANDINGS AND MARINAS FOLDER. The 16 page "Virginia Boat Landings and Marinas" folder published by the Commission of Game and Inland Fisheries has been revised and is again ready for free distribution. Included is a listing of the free public boat landings in each county, the nearest numbered access road from which they may be reached, and the type of boats which may be launched from each site. A detailed listing of commercial marinas and boat docks is included with addresses, phone numbers and facilities available.

Copies of the new marinas and boat landings folder may be obtained free from Commission license agents, sporting goods stores, or from the Commission of Game and Inland Fisheries, Box 1642, Richmond, Virginia.

MUSKIES STOCKED IN GASTON RESERVOIR. Nearly 40,000 muskie fry have been stocked by the Commission of Game and Inland Fisheries in Gaston Reservoir near Emporia. The fish were obtained from the Pennsylvania Fish Commission and were "air lifted" to the release site iced down in plastic bags. "They were stocked in the lake," Martin said, "to get the jump on the catfish and suckers that predominate in the Roanoke River which feeds the new lake."

Stocking such a large quantity of the little muskies is expected to put them in a favorable position to dominate the new lake for a few years. By consuming the fry and spawn of the less desirable fish in the lake, the fingerling muskies are expected to show tremendous growth while keeping the rough fish in check. Muskelunge are voracious feeders reaching a weight of 60 pounds and can consume large fish when full grown. Anglers can expect a real muskie bonanza until the rough fish slowly but inevitably reach normal population levels.

Gaston Reservoir was completed in 1962 and covers about 20,000 acres. Northern pike, close relatives of the muskie, have also been stocked in the lake and are expected to show phenomenal growth and provide good angling.

Supervising Fish Biologist Jack Hoffman, who designed the gear, rigs electro-fishing equipment prior to commencing tagging operations.

Fish Management Aide Bradley Rowles uses a dip net to capture fish temporarily stunned by electro-fishing gear commonly referred to as an "electric seine."

When the fish were in a mood to strike, conventional fishing tackle was more efficient than the "electric seine," and a lot more fun.

Fishing was good at times. Two anglers "hold" their fish while biologist measures one landed moments before.

Fish Division Chief Bob Martin carefully lifts a ripe female from the water.

Sprin

A tag is attached, which will help biologists learn more about ra growth, movements, and rate of harvest. The Commission of Gam Inland Fisheries offers a dollar for each such tag returned with location, and size of fish from which it was taken. Tags should be r to the Commission, Box 1642, Richmond 13.

g Fever on the Roanoke

Happy anglers checked 200 stripers at the Brookneal station during the early days of the spring spawning run. Probably three times that number were caught. Fish ranged from 3 to 18 pounds.

FISH, fishermen and fishery biologists all get into the act when the landlocked striped bass of Kerr Reservoir, true to the migratory instincts of their anadromous forebears, leave their winter quarters and head upstream on the spawning run that has become an established annual event in the Staunton (Roanoke) and Dan Rivers.

First signs of the 1963 run appeared in mid-April, as anglers began to take an occasional fish, heavy with roe, in the flowing waters above the impoundment. Biologists estimated that spawning would reach its peak by the middle of May, and laid plans to take advantage of this chance to learn more about this almost unique, isolated, inland bass population. At the same time, anglers laid their plans to take advantage of the opportunity to catch fish!

The upstream movement was in full swing by the first week in May, as fishermen checked 200 stripers ranging from 3 to 18 pounds at the Commission of Game and Inland Fisheries' station at Brookneal. This was estimated to be about one third of the number caught. Fish checking here is voluntary, and is conducted only to obtain a sampling, rather than to make a complete statistical study of the catch.

At the height of the run, seventy-five spawners were tagged and released, to gain more data on movement, growth rate, and annual harvest. In their tagging operation fishery men used an electro-fishing device, designed by biologist supervisor Jack Hoffman, as well as conventional fishing tackle. When the fish were in a striking mood, conventional tackle was more effective. At other times, only the electric "shocking" gear got any results. The biologists were aided by game wardens, and by a group of eager volunteer anglers from Roanoke and Brookneal.

Twenty-four large fish caught below Leesville Reservoir were tagged and released above the Leesville dam to provide brood stock for the newly created impoundment where, it is to be hoped, the fish will thrive and multiply as they have done in Kerr Reservoir. This was considered an adequate initial stocking for Leesville, since one ten pound female striper has the capacity to spawn a million eggs. The remaining tagged fish were released approximately where they were caught, between Brookneal and the Leesville dam, to obtain further information on the Kerr population.

One fish tagged in 1962 at Brookneal turned up in this year's catch 40 miles farther upstream, in the Leesville tailwaters.

Temporary hatchery facilities were set up at Brookneal, where biologists experimented with techniques for taking eggs and producing fry for stocking other new waters with the offspring of the landlocked race that has flourished in the Kerr environment. After this "dress rehearsal" it will be possible next year to conduct actual hatchery operations with the landlocked stripers. Smith Mountain Reservoir is the next new impoundment scheduled for striper introduction.

Dry weather, and the resulting need to manipulate water flow at upstream dams interfered somewhat with this year's spawning in the Staunton River. However, at the request of the Game Commission, the Appalachian Power Company took pains to provide a continuous flow of water during the peak spawning period. This year's investigations showed that the total Kerr striper population continues to thrive and multiply, as there was a great increase in spawning in the Dan River arm of the reservoir which has been the scene of little such activity in the past.

Commission photos by Kesteloo

Careful records of weights and measurements are made before tagged fish are released.

Experimental hatchery operations were conducted, which will lead to the production of fry in future years to stock new impoundments. Temperature, oxygen and continuous motion are critical factors in the successful culture of striped bass eggs, as the fish normally spawn in flowing water and the eggs hatch as they drift downstream. These conditions are difficult to simulate in the regular fish hatchery.

Kids Make Wonderful Fishermen

Fishing partners: two sportswomen, one rod.

By SAM VANDERSLICE
Falls Church, Virginia

BORED and finding it hard to pass the time away? Then take the kids fishing. By adding their fun to yours, you'll get double pleasure from every moment spent on pond or stream. For truly no greater happiness can be found than that derived from helping the youngsters catch their first fish, teaching them the science of bait fishing, and finally witnessing their graduation to artificials and flies. But let me illustrate my idea with the story of my three experts and the fun I had in training them.

One Saturday, my wife and I were trying to decide what to do to entertain the grandchildren who were spending the day with us, when they took matters into their own hands.

"Papa, take us fishing!"

"You promised. Remember?"

"Please, Papa, ple-ease!"

And then, "Grandma, you make him."

This left me no choice except to dig some worms; load wife, kids, and enough fishing tackle into the car; and head for Lake Brittle, the nearest public fishing water. The equipment was my own as I wanted to be certain they'd enjoy fishing before spending any money. But as we rode along and I listened to their excited chatter, I could but breathe a prayer that that day would soon arrive.

When we reached Lake Brittle, the understanding caretaker told us that many small bream and other fish were to be found in the little creek which received the overflow from the lake, and that we should have fun fishing for them in the pool just below the dam. We hastened to follow his kindly advice with results far beyond our expectations. Until we ran out of worms, I was kept busy baiting hooks and removing fish. Yes, they were small; but the youngsters were catching plenty of them and having tons of fun. It was not long before I realized that, until kids learn adult ways, they measure their fishing enjoyment as much by number as by size.

After this satisfactory experience, the kids really put on pressure for Papa to take them fishing and I, of course, just couldn't turn them down. Nor was it long before their evident pleasure convinced me it was time to get them fishing equipment of their very own. And when I mentioned the idea to them, I just couldn't get to the local sporting goods store fast enough.

Big-hearted Bob Yeatman must have shaved prices to the bone as their three casting outfits—rods, reels, lines, floats, hooks, etc.—cost me less than $10 a set. I assure you the

tackle was of good quality, for I'd not have permitted otherwise. One of my pet peeves is an adult with a $50 to $65 rig of his own pretending to make a fisherman of a child by starting him off with a dollar outfit.

On the first trip with the new equipment, a miracle sent us to one of Virginia's nicest farmers to ask permission to fish his pond. His kindness of heart caused him to grant our request and increased my resolve to prove worthy of his courtesy. And this basic idea I tried to convey to my kids. I wanted them to know that to lose the friendship of this fine man would be tragic and to forfeit the right to fish his pond would be an irreparable loss.

Kids quickly and easily learn what is right about these things—the care they must take of the farmer's property and the respect which must be shown him and the members of his family. Words sincerely spoken and examples properly set will usually suffice. Fortunately, my youngsters understood at once what was expected of them and so we lost little time in centering our attention on catching some of the fish in the nice pond.

And thanks to the same fate which guided us to our host, the kids were blessed with the best of luck. Sammie, just five, caught twelve bream; Margie, aged eight, landed twenty-one small bass and bream; and Cathy, ten years old, topped the three with twenty six. Her largest bass was about two pounds and Margie's over a pound and a half. Obviously, only a few such trips were needed to prepare my future fishermen for more advanced training.

Soon the girls were not only baiting their hooks but also taking fish off the hook. Just the gentlest touch of a file to round but not remove the barb solved this problem. Sammie still needs help, but is learning. The secret of success with the young is not to rush as time and patience work wonders.

So once more Papa found himself free to try his skill. In fact, I was able to resume my little experiment of fishing with two flies—a floater on the tippet and a wet fly as a dropper—with surprising results. On a recent trip with the kids I found time to land five "doubles."

And now let me tell you about another pleasing event that happened on one of our family trips. On this never-to-be-forgotten day I got Grandma to try fishing with a fly rod. My instructions were brief as she is a smart girl. "With a quick upward and backward flip move the rod tip from nine to two o'clock. Hesitate a moment to give the line time to straighten out behind you. Now snap the rod forward briskly stopping the tip at ten o'clock to keep line and fly from smacking the water. Let the fly settle gently on the surface and rest there a few seconds before giving it life by pulling gently on the line. Lift the rod tip and tightened line when the fish strikes." I then made a couple of demonstration casts before returning to the kids, leaving her to work out the details.

It was but a few minutes before she called, "Sam, I'm snagged, darn it!" And then in excited surprise, "No, it's moving! I've hooked a fish!" Soon she landed not just her first fish on a fly rod but her first double—a bass on the wet fly and a bream on the little popper. Now she is as ready to fish as the kids.

As time passed I was more and more alert for any proof that my student fishermen were making real progress. Thus it was that one day my investigation led me to overhear Sammie telling his friends about a trip to the pond. "Why we caught a string of fish this lo-ong! And they were all over a foot! Boy! Oh, boy!"

I started to say something about exaggeration but happened to recall he had seen many of my fish and heard my later reports about them. So I patted him on the head for being an apt pupil, but at the same time resolved to be a little more careful with my fishing reports in the future.

The time finally arrived when I was convinced the kids were ready for training in the use of artificials and flies. As they had bait rods and reels, I made them casting floats by removing all hooks from some small plugs, replacing the rear ones with screweyes. The front screw-eye of the float was fastened to the line while the rear one had about three feet of monofilament tied to it with a fly, popper, or small spinning lure attached. This float was cast like any plug and allowed to remain quiet until the lure sank. Then slowly, jerkily it was reeled in. Properly handled this device proved quite effective. (Of course, I'm ever demonstrating the use of the fly rod to them and one day, if their interest is real, I'll get them the necessary equipment.)

Soon the girls were casting with fair success and catching fish on artificials "just like Papa"—a very proud and happy Papa, who can think of no better way to enjoy life than to teach his kids to love the outdoors and to use its gifts with understanding and appreciation. My three fishermen were ready for their "promotion."

Photos by the Author

Three graduate fishermen were "A" students. Right: Honor student shows her diploma.

WATERSHED PROTECTION

By GORDON S. SMITH
USDA—Soil Conservation Service
Upper Darby, Pennsylvania

"DESIGN your scout camps with built-in watershed conservation and a 'ten site rotation system,' " suggested Ted S. Pettit, national director of Boy Scouts of America conservation programs.

Pettit's ideas stirred the imagination of his audience, the planning committee for the Blue Ridge Scout Council at Roanoke, Virginia. They were planning the second of a series of Scout camps on their 16,000-acre reservation in Pulaski County.

The reservation, second only in size to the BSA Philmont Ranch in New Mexico, was first used for Civil War iron ore mining. Later, the owners clear-cut virgin timber from the hills. Scars of the land misuse were still visible when the council bought the land to meet the growing need for camping facilities in their 14-county southwest Virginia area.

The new camp site was slated to be the prototype for future camps on the reservation. Realistic use of natural resources had top priority, according to Council leaders, so the new site needed the latest in conservation planning.

By mid-1962, the new site, Camp Ottari, a 250-scout unit, was ready for action. A ten-acre lake, backed up by a 39-foot-high floodwater retarding dam, was the center attraction. It could easily fill any aquatic sport or merit badge testing need. Surrounding woods, trout streams and steep mountain trails were a real challenge to any scout's yen for authentic backwoods adventure.

In building Camp Ottari, the Scouters had picked a valley on Laurel Creek, a tributary of Little River flowing through the reservation. But the site lacked the all-important camp feature—a lake. Looking for technical advice on this problem, the Council talked to U. S. Soil Conservation Service men at Pulaski. Fred A. Hodnett, SCS leader for the county, checked the proposed lake site with the Council planners.

"Our aerial photo-maps showed 2,300 acres of steep mountain land draining through the proposed area," Hodnett recalls. "A good bit of the watershed had poor tree cover. This added to the runoff problem. Anything smaller than a full-scale floodwater dam might have been ripped out in the first cloudburst. I recommended the larger structure."

The planners accepted Hodnett's advice and added the dam to the overall plan. SCS engineers designed a compacted earth structure that would stretch 307 feet across the

Swimming and boating facilities at Camp Powhatan, the reservation's #1 camp, are similar to Ottari's new facilities but the lake is much smaller.

Swimming instruction for young scouts is the big water activity on both camp sites at the Blue Ridge scout reservation.

Scouts head out for supervised canoe handling tests on the Blue Ridge reservation.

Water skiing on the new Ottari lake is a new activity reserved for senior scouts.

FOR CAMP SITES

valley's flood plain. The structure's high freeboard would store potential floodwater safely behind the dam. A 48-inch pipe under the dam would pass normal or floodwater flows downstream at a controlled pace. SCS-designed watershed projects, nationwide, use the same general structural design, often with even larger floodwater storage capacity.

A Council-wide fund drive to pay for camp construction costs attracted civic-minded William Adams, a Roanoke contractor. Mr. Adams donated his earth-moving equipment and experienced manpower to shape the new dam. His bulldozers and carryalls moved nearly 40,000 cubic yards of earth to complete the structure.

The new floodwater dam added even more importance to the original watershed conservation plan. Erosion had to be cut to a minimum behind the dam. Soil washed from the hills in the watershed would settle in the new lake and reduce its floodwater storage capacity and recreation use.

Heavily trampled troop tenting areas usually subject to severe soil erosion had to be protected. The tent site rotation plan at Ottari solved this problem. Quarter-acre areas were cleared of trees and brush. Wildlife shrubs—autumn olive and wild plum—were planted around the fringes. The remainder of each area, circular in shape, was planted to tall fescue grass and fertilized. Tent platforms were located around the perimeters. Each site will be used for two years —then allowed to stand idle for a year to regain good cover. Thirty such clearings are being prepared.

Upstream erosion control was equally important. Fire-scarred areas were still eroding. Scrub oaks had taken over in some places but offered little cover for the soil.

Camp Ottari Scouts are healing woodland scars as part of their conservation training. White pines, a healthy native to Virginia hills, are being planted in exposed areas and under-planted among the scrub oaks. Inferior trees are being weeded out to give the better forest species a faster growth rate. Wildlife food shrubs and grasses and legumes are being planted as part of the conservation program.

Gradual renovation of woods above the new lake will yield triple benefits. Erosion will be controlled. Wildlife will have better food and cover during the rugged winter months. And future tree harvests will have higher per-acre yields. The Council is counting on added timber income to help pay maintenance costs.

The new reservoir and its watershed, according to well-pleased Council leaders, will be a prize example of multi-benefits produced by good resource planning to future generations of Blue Ridge scouts.

"Camp Ottari is new, but we can see a change in the watershed already," says soil conservationist Hodnett. "Downstream fishing has improved. Bottomland farms below the reservation are enjoying better flood protection. Little River has one less flooding tributary. Before long, these Scouts will have this land looking like it did when the Indians hunted the hills."

Fred Hodnett, SCS technician for Pulaski County, enjoys the view of Camp Ottari from the new dam.

Soil Conservation photos

Black walnut wood is highly prized for hand carving.

THE WALNUTS

By DR. A. B. MASSEY
Virginia Polytechnic Institute

IN the eastern portion of the United States the black walnut (*Juglans nigra*) is a familiar tree. The white walnut or butternut *(Juglans cinerea)* is not so familiar. Its nut contains a nutritious kernel, but one which is not so tasty as that of the black. Both trees occur in well drained, fertile soil in low grounds, open woods and waysides. Black walnut trees are larger and more stately, and their straight erect trunks yield more timber per tree.

In the western states other species occur, but these are inferior to the eastern black walnut. The familiar English walnut (*Juglans regia*) in our markets is a native of eastern Europe and Asia. It is grown commercially in California for the nuts. The Japanese walnut (*Juglans cordiformis*) is sometimes seen in ornamental plantings. The nut is somewhat heart shaped, and is called the heart nut.

The eastern walnut is not utilized by man alone. Deer and other browsers feed on the twigs when they are in reach. The nuts are freely cut by squirrels for the nutritious kernel. Squirrels are also of importance in the development and spread of walnut trees. The life cycle of the walnut reveals an example of cooperation (biotic relation) between plants and animals in nature.

The seed of the walnut, which is necessary for reproduction and maintaining the species, is too heavy to be scattered by wind and normally is not dispersed by water. But squirrels carry the nuts away, and bury them in soil that is easy to dig—usually in the soft, deep, fertile soil that is most favorable for the growth of the walnut tree. Their apparent intention is to store the nuts for later use; but some of the buried nuts are left undisturbed. Later the nuts germinate, and in time new trees develop, often at some distance from the parent tree. Thus, by virtue of the attractive food within the nut, the spread of the species is accomplished.

Air currents have an important function in the life cycle of the walnut. The male flowers in which pollen is developed occur in tassels on the same plant, or even on the same twig, as the pistillate, or female, flowers. Wind and air currents disperse the fine pollen grains, some of which become attached to the pistils of the female flowers and bring about fertilization in the ovary and development of the familiar nut. Thus the walnut, like most other plants, cannot carry out its complete life cycle alone. Biotic and environmental factors are involved.

The black walnut tree produces separate male (M) and female (F) flowers on the same plant, and even on the same twig. Each female flower is capable of developing a single walnut.

Man's greatest economic interest in the black walnut stems from the value he places on the wood rather than on the nut. Black walnut is rated highly as a cabinet wood in furniture making, and is often used for interior finishing in fine homes and buildings. Butternut wood is similarly used, but is inferior in some respects and is less highly prized. The sportsman proudly polishes his black walnut gun stock, admiring the color and grain of the wood. In earlier days, when walnut trees were more abundant, cabinet work was of solid wood. Now walnut veneer is more common. Walnut wood is highly rated by wood carvers for making animal images and other objects requiring a dark wood.

The gardener, farmer and orchardist find walnut trees near some of their plantings to be quite damaging. The roots of the walnut tree spread widely, and when the roots of Irish potatoes, tomatoes, alfalfa, or apple trees come in direct contact with those of the walnut, the plants are killed. In a tomato patch experimentally planted near a large walnut tree, many of the plants died when they were half grown. The roots of the dead tomatoes were found to be in direct contact with those of the walnut. Plants were killed 81 feet from the base of the walnut tree. A walnut tree growing along the edge of an alfalfa field killed the alfalfa in a semicircle extending as much as 62 feet from the base of the tree. Rhododendron, mountain laurel, pines and blackberries as well as tomatoes, Irish potatoes, alfalfa and apples are killed when their roots make direct contact with those of the walnut. On the other hand pasture grasses, especially blue grass, thrive on close association with walnut trees.

Aerial view of the Patuxent Wildlife Research Center, eastern headquarters for Bureau of Sports Fisheries and Wildlife research activities. The U-shaped building is the new Biochemistry-Wildlife Pathology Laboratory.

New Wildlife Research Laboratory Opens

USDI, Fish and Wildlife photos

A new research laboratory "dedicated to Man—a milestone toward his future on this planet" was opened recently at the Patuxent Wildlife Research Center near Laurel, Maryland. The new facility, the Biochemistry-Wildlife Pathology Laboratory of the Bureau of Sport Fisheries and Wildlife, U. S. Fish and Wildlife Service, will accommodate a staff of scientists studying pesticide-animal relationships and wildlife disease.

"The work done here may prevent or halt the threat of the 'silent springs' that stalk the earth—for this laboratory marks the beginnings of a new national awareness of the present and potential danger we have almost thoughtlessly brought to the world in which we live," said Secretary of the Interior Stewart Udall, who then went on to cite the following "unnerving" facts:

Pesticide residues have been found in virtually every type of warm-blooded animal across our land.

Measurable amounts of widely used chemicals have been found in North Pacific bottom fish and surface feeders far distant on the open ocean.

Man himself is slowly building up in his body small—but relentlessly cumulative—traces of chemicals that were manufactured and used to improve the life we live and the food we eat.

Research has told us that incredibly small quantities of some chemicals can destroy shrimp grounds, or reduce the reproductive capacity of oysters.

Uncounted thousands of birds and other wildlife have suffered or died from the widespread use of chemical pesticides.

"These are facts," said Secretary Udall. "Some people have argued about their meaning. Pesticides have done much good. But evidence of the price we have paid is around us. We cannot longer ignore the unanswered question: What are we doing to our *total environment* by spreading millions of pounds of deadly chemicals over the land?"

The Patuxent Wildlife Research Center, operated since 1939, is one of two such centers maintained by the Bureau of Sport Fisheries and Wildlife. It is the Bureau's eastern headquarters for research on wildlife problems. Typical projects include research on controlling pest plants in marshes, developing new habitats for waterfowl, the blackbird problem, wildlife management problems, diseases and parasites of wildlife, and pesticide-wildlife studies. The new laboratory will permit greatly expanded research on wildlife diseases and pesticides. Numerous wildlife-pesticide projects are planned. One, usually referred to as the kinetics of pesticides or the effect of pesticides on body chemistry, will determine in what tissues the pesticides accumulate and the rate of elimination.

This field of research has assumed new dimensions in the conservation of natural resources in recent years, because of its implications with respect to human health and well-being. The tremendous increase in agricultural productivity, basic to the high standard of living we now enjoy, has come about largely through the great strides which have been made in the development and use of agricultural chemicals. The high standard of health which we have achieved would decline were it not for the control of disease carrying vectors by use of pesticides. Now, with the completion of the new Patuxent laboratory, for the first time since the use of pesticides became a major factor in agriculture and public health the nation has a facility designed to conduct some of the basic research needed to point out ways and means of using these chemicals without sacrificing wildlife and perhaps doing irreparable harm to the human environment.

The new Biochemistry-Wildlife Pathology Laboratory at the Patuxent Wildlife Research Center, Laurel, Maryland.

The Win Before The Fall?

Reprinted from *Printers' Ink*, April 26, 1963. Copyright 1963 by Printers' Ink Publishing Corp.

THERE are none so blind as those who think it can't happen to them. Blinder still are those to whom it has already happened, but don't realize that it has. The blinder-still group here is made up of the Manufacturing Chemists Assn., and the National Agriculture Chemical Assn., both of which exercised sound judgment in responding to *Silent Spring*, with information rather than invective. But now that the agricultural-chemicals industry has survived the controversy (its sales continue to climb), the associations seem to feel that they have reduced Rachel Carson's best-seller to, as one chemical company public-relations type put it recently, "the ridiculous."

Just last week, Allen Settle, public relations director for the Manufacturing Chemists Assn., smugly stood before a group of chemical publicists in New York, and blandly described, one by one, the tactics employed by his association to send Miss Carson off, whimpering in shame, while the agricultural-chemicals industry remained free to spray.

The issue here is not the validity of Miss Carson's argument, nor is it the type of defense the industry adopted—it was, in fact, a good defense. But to dismiss the talented, popular authoress as "ridiculous," and to act as though no problem really exists—either for the industry or humanity—is pomposity to the extreme. Rachel Carson is no lightweight. Neither she nor her work should be dismissed as such by a flyweight.

16th Annual Wildlife Essay Contest

Grand Prize Winners of the 16th Annual Wildlife Essay Contest are shown here with Attorney General Robert Y. Button who presented the awards. Left to right: Betty Gale Lewis, Thom A. Kostenbauder, Lillian Clemen, Linda Robinson, Attorney General Robert Y. Button, Benjamin B. Brown, Peggy Jo Sampson, Mary Louise Webb, Clare E. Duetsch, Sara Ann Gillespie.

Top winner Bejamin B. Brown

Dr. Franklin D. Kizer, Supervisor of Science, State Board of Education, surrounded by teachers and principals representing schools that participated 100% in the contest.

THE climax of the 16th Annual Wildlife Essay Contest came about on April 26 when the top winners were brought to Richmond by game wardens to receive their awards.

The awards ceremony was held in the Corporation Commission Court Room with James F. McInteer, Jr., Chief of the Education Division, Commission of Game and Inland Fisheries, presiding as Master of Ceremonies. Following brief remarks by Chester F. Phelps, Executive Director of the Commission; William P. Blackwell, State President of Izaak Walton League of America; Sarah Hill, Chairman of Conservation Committee, IWLA; and Dr. Franklin D. Kizer, Supervisor of Science, State Board of Education, Attorney General Robert Y. Button presented the awards to the following schools and students.

School awards, $15 each, for 100 percent participation:

Appomattox Elementary School, Appomattox County
Pamplin Elementary School, Appomattox County
Greenville Elementary School, Augusta County
Central High School, Buckingham County
Sylvatus Jr. High School, Carroll County
Ettrick Elementary School, Chesterfield County
Boyce Elementary School, Clarke County
Moody Elementary School, Clifton Forge
Ridgeway Elementary School, Henry County
Marriott High School, King & Queen County
Wicomico Elementary School, Northumberland County
Grymes Memorial School, Orange County
Givens Elementary School, Russell County
Brumley Gap Elementary School, Washington County

Grand Prize Winners of $50.00 each for their essays on "The Importance of Conservation Education in the School Curriculum" were:

Senior Grade, Sara Ann Gillespie, Roanoke Catholic High School, Roanoke
11th Grade, Linda Robinson, Spottsylvania High School, Spottsylvania County
10th Grade, Clare E. Duetsch, Roanoke Catholic High School, Roanoke
9th Grade, Mary Louise Webb, Buckingham Central High School, Buckingham County
8th Grade, Thom A. Kostenbauder, Tuckahoe Jr. High School, Henrico County
7th Grade, Betty Gayle Lewis, Gloucester Elementary School, Gloucester County
6th Grade, Peggy Jo Sampson, Wicomico Elementary School, Northumberland County
5th Grade, Lillian Clemen, Brentsville District High School, Prince William County

Benjamin B. Brown, senior at Bedford High School, received the top award—an $800 scholarship. Ben will attend Bridgewater College.

Following the ceremony the honor guests and their parents were taken by bus on a historical tour of Richmond. The Richmond IWLA were hosts at a luncheon for the winners and their guests.

The remainder of the 230 cash awards were presented by local game wardens and IWLA representatives in the schools at special award ceremonies.

This year the contest broke all previous records with receipt of 13,694 essays submitted by students representing 184 Virginia schools, vieing for cash awards amounting to $3,000.

For the past 16 years the Virginia Division of the IWLA and the Virginia Commission of Game and Inland Fisheries have co-sponsored this annual wildlife essay contest. Its purpose is to bring about a better understanding of the value of conservation of our natural resources and what it means to our economic, physical and spiritual life.

As Ben Brown wrote in his essay:

"Yes, conservation is indeed worthy of every position that it has been given in the lives of Americans. Conservation is not only a subject, a science, a theory, but it is an essential principle in the development of an enriched life and a strong country. Conservation is essential to the American way of life."

Bird of the Month:

The White-eyed Vireo

By DR. J. J. MURRAY
Lexington, Virginia

TO many people the little white-eyed vireo is not only the most attractive of the vireos but one of the most attractive song birds. The other vireos are rather deliberate both in song and in movement; the white-eyed vireo is quick and bright and saucy. Dr. Frank Chapman, author of the indispensable *Handbook of Birds of Eastern North America*, speaks of it as "impertinent," but to me this does not seem quite the term. "Inquisitive" is a better word for this little fellow. It is alert in all its movements and interested in everything that goes on.

When one comes into the nesting territory of the white-eyed vireo, the watchful little bird immediately goes into action, coming close and often mounting to the top of a bush, with a question or a series of scolding remarks. It then drops back into the thicket, moving about out of sight but easily followed by its brisk and characteristic song. This song has been translated into human words in various ways, but the best version seems to be that given by boys in the deep South, "chip fell out of the white oak." The song has a whip-like emphasis at the beginning and near the end. The bird is a persistent singer.

Vireos are modestly colored, with the exception of the bright upper breast of the yellow-throated vireo. The white-eyed has an olive-green back and white underparts, except for a wash of pale yellowish on the sides. The most striking mark is the yellow area around and in front of the eyes.

Our three common vireos tend to divide the planes of the forest, the red-eyed taking the higher layers, the yellow-throated the middle, and the white-eyed staying nearer the ground. The latter is partial to thickets and to the open areas in the woods, while the others prefer deeper shade.

While the nest is sometimes placed as high as ten feet, it is usually only a few feet from the ground. Like all vireo nests, it is a cup, suspended from a fork near the end of a branch, but the nest of the white-eyed is rather deeper and more pointed than the others. It is beautifully fashioned of plant fibers, softest inner bark, spider webs, and small leaves, and lined with very fine grasses. The three or four eggs are white, thinly marked with specks of dark brown.

In Virginia, eggs are laid from mid-May to late June, depending on the part of the state in which the birds are nesting. Naturally they lay earlier in the warmth of Tidewater than in the cooler Valley. In about 15 days the young hatch out; and here in this comfortable cradle they remain for another 12 days before launching out into the world.

The white-eyed vireo is oriented toward the south, but for the past two or three decades it has been extending its range westward and upward in Virginia. Once almost unknown in Rockbridge County, and still not common, its bright song is now heard regularly along some of our streams.

Edited by HARRY GILLAM

Citation Bigmouth

Jack James, Jr., of Hopewell is shown holding the 9 pound 12 ounce largemouth bass which won him a Freshwater Fish Citation. The lunker was taken in Coleman's Lake.

Game Wardens To Attend Conservation Course

The Virginia Commission of Game and Inland Fisheries has selected seven game wardens to attend a conservation education short course sponsored by the Virginia Resource-Use Education Council. Game Wardens John H. Eakin of New Castle, Ted Ward of Pilgrim Knob and J. W. Simpson of Front Royal attended classes at Virginia Polytechnic Institute in Blacksburg June 13-29. Wardens James E. Allen of Amelia, Francis Boggs of Fredericksburg, G. J. Otey of Lanexa and D. A. Ferrell of Falmouth, former Stafford County Warden now assigned to public relations duties in the George Washington District, will attend the three-week course at the College of William and Mary in Williamsburg July 29-August 16. This is the third year that selected wardens have been authorized to attend the worthwhile course covering management of Virginia's natural resources.

The courses are designed primarily to give school teachers an opportunity to get special training in the wise use of Virginia's soils, waters, minerals, forests, wildlife and marine life. Those successfully completing the course receive 4½ quarters hours or three semester hours credit. A number of public school teachers are awarded scholarships to the three-week course by the Virginia Resource-Use Education Council from funds voluntarily contributed by sportsmen's clubs, garden clubs and civic groups, soil conservation districts, industry and other interested organizations and individuals. Commission employees will be attending at Commission expense.

Game Management on National Forests Booklet

In recognition of the 25th anniversary of the cooperative Game Commission-Forest Service wildlife management plan for Virginia National Forests, a 24 page booklet, "Wildlife Management on Virginia National Forests," has been prepared. The well illustrated booklet contains a historical account of the factors which led up to this unique plan, plus a chronological coverage of how this plan was first put into practice and the changes that have evolved over the years. The various types of recreation to be enjoyed on the national forests are mentioned, along with the amount of use these facilities receive. Copies of the booklet may be obtained free from the Commission of Game and Inland Fisheries or from the U. S. Forest Service.

TECH Students Form Wildlife Society Chapter

Students in the Forestry and Wildlife Department at Virginia Polytechnic Institute have formed the second student chapter of The Wildlife Society, a professional society of wildlife biologists in the United States with members in Canada, Mexico and other foreign countries. A total of 24 Tech students currently belong to the society, in addition to Dr. Henry S. Mosby, professor of wildlife management, and Dr. Burd S. McGinnes, leader of the Virginia Cooperative Wildlife Research Unit.

One of the first actions of the new chapter was to elect Dr. A. B. Massey, professor emeritus of biology, to honorary membership. Professor Massey, one of Virginia's leading botanists, has given many years of professional guidance to the VPI wildlife training program.

Part of the society's function is to promote high levels of training for persons entering wildlife research and management professions. Initiation of the student chapter at VPI complements a long history of wildlife training at the institution dating back to 1936. Future chapter functions will include support of high standards of excellence for future wildlife biologists and the promotion of informational activities of interest to the University.

Grants Available For Park Research

A program of research grants has been set up by the Eastern National Park and Monument Association to encourage original research on history or natural history that will contribute to the interpretation, management or developmental programs on National Park Service areas in the eastern United States. The grants, available to qualified scholars (including graduate students), will vary in amount depending on the nature of the research to be performed. Requests for information about the research grants should be directed to the chairman of the Grant-in-Aid Committee of the Association, Dr. Edward M. Riley, Director of Research, Colonial Williamsburg, Virginia.

Three of a Kind

The romantic inclinations of these three Caroline County gobblers finally won out over their better judgement on the next-to-the-last day of the recent spring gobbler season. Left to right with their big birds are George Harrison with an 18¼ pounder, Leonard Melton with an 18¼ pounder, and C. G. Neblett with a 20¼ pounder. These hunters from Henrico county hunted near Fredericksburg four days without success before their triple score on the fifth day.

Edited by DOROTHY ALLEN

Rustburg Students Observe Arbor Day

Students at Rustburg High observe Arbor Day by planting trees on their school grounds.

An Arbor Day was held on April 3, 1963, at Rustburg High and Elementary School in Campbell County. All clubs and classes of the school participated by securing trees from the woods and then replanting them in assigned plots on the school ground. The planting was preceded by a dedication, which emphasized the importance of Arbor Day.

This Arbor Day accomplished 3 aims: (1) improved the landscaping of the school grounds; (2) taught the students a lesson in conservation; and (3) included the entire school in a worthwhile project.

The school plans to observe an Arbor Day annually.

Humble Dealers Go to Aid of Bluebirds

Humble dealers throughout the United States are going to the aid of the bluebird. Starting about the middle of April, they sent out more than 1¼ million bluebird houses to their customers.

The bird houses, made of corrugated board and impregnated with special coating of Sealite, a unique wax compound developed by Humble, were easily assembled and put out for the spring arrival of the bluebirds.

In a brochure accompanying the gift, Humble dealers noted that the number of bluebirds in this country has been declining at an alarming rate. The major problem is housing. Bluebirds nest naturally in hollow trees, fence posts and in old woodpecker holes.

"But," says the brochure, "dead trees are cut down, metal posts are put up, holes are filled in and the few places that are left have already been taken over by sparrows and starlings which do not migrate in the winter. Thus, there is an urgent need for thousands of nesting boxes."

1959 Scholarship Winner Receives Fellowship

Gene Wood of Bedford won the 1959 Annual Wildlife Essay Contest scholarship sponsored by the Virginia Commission of Game and Inland Fisheries and the Virginia Division of the Izaak Walton League of America.

Gene enrolled at Virginia Polytechnic Institute and this past June received a B.S. degree in forest wildlife management. He has received a graduate fellowship of $2.280 per annum plus tuition from Pennsylvania State University for research and study leading to an M.S. degree in wildlife management.

Currently, Gene is the president of the 1963 Agriculture Exposition, vice chairman of the board of directors for 1963 Tech Festival Days and a member of Alpha Zeta Honorary Agriculture Fraternity. Gene also has recently been elected secretary for the newly formed chapter at VPI of The Wildlife Society. This is the nation's second student chapter that has been formed and is the professional society of wildlife biologists in the United States with membership in Canada, Mexico and several other countries.

During June and July Gene will be assistant manager at the Kentucky Woodlands National Wildlife Refuge. In August, he will go to The Pas, Manitoba, Canada, to aid in a waterfowl banding project until September when he will take a leave of absence from the Bureau of Sport Fisheries and Wildlife to begin graduate study at Penn State.

Benjamin Brown, this year's Wildlife Essay Scholarship winner, is also from Bedford.

Home For Bluebirds

Photo by Paul Muse, *Free Lance Star*, Fredericksburg

Francis F. Holloway talks with Daniel P. Smithwick about the bluebird kits he is making.

When Daniel P. Smithwick of Fredericksburg heard about the steady decrease in natural nesting sites for bluebirds, he decided to see what could be done locally to eliminate the bluebird housing shortage. Smithwick had two resources to which he could immediately turn, being a past president of the Fredericksburg-Rappahannock Chapter, Izaak Walton League; and being a retired man with time on his hands and a complete woodworking shop in his basement.

The League undertook the project of furnishing bluebird house kits made by Smithwick to any Boy Scout troop in the area willing to put them up.

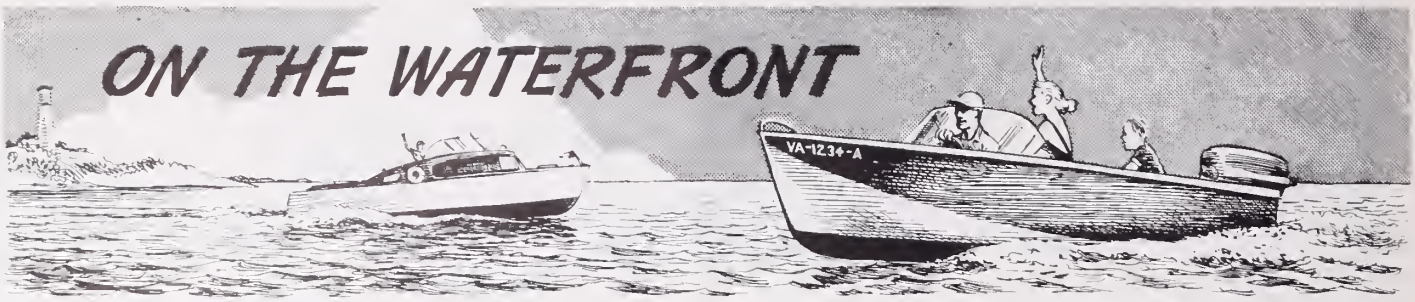
Francis F. Holloway, a Waltonian as well as Boy Scout representative for Fredericksburg Baptist Church, found the first taker—Troop 171 at the Baptist Church, which has received 24 kits.

There's a standing invitation for other troops to do the same, Smithwick said.

The kits are furnished without cost. Smithwick contributes his labor and a house salvager, Daniel Mitchell, has donated a supply of wood.

All the Boy Scouts have to do to put the house together is to nail six pieces of pre-cut wood.

Smithwick said bluebird houses aren't just ordinary houses. They should have a five-inch square floor, and should be 8 to 10 inches high, with a 1½ inch entrance hole placed just high enough to hide the nesting bird.



Edited by JIM KERRICK

National Safe Boating Week

The President of the United States has issued the following proclamation, designating the week of June 30, 1963, at National Safe Boating Week:

"WHEREAS recreational boating is playing an increasingly important part in the lives of millions of Americans who look to it as a means of maintaining physical vigor and mental alertness; and

"WHEREAS the resulting increased use of our waterways has caused a corresponding increase in safety problems; and

"WHEREAS this healthful outdoor activity can be enhanced and loss of life and property reduced by adherence to safe boating principles; and

"WHEREAS the Congress of the United States, in recognition of the importance of such safe boating practices, by a joint resolution, approved June 4, 1948 (72 Stat. 179), has requested the President to proclaim annually the week that includes the Fourth of July as National Safe Boating Week:

"NOW, THEREFORE, I, JOHN F. KENNEDY, PRESIDENT OF THE UNITED STATES OF AMERICA, do hereby designate the week beginning June 30, 1963, as National Safe Boating Week.

"In pursuance of the objectives of this Proclamation, I urge all persons, organizations, and Governmental agencies interested in recreational boating and safety afloat to publicize and observe National Safe Boating Week.

"I also invite the Governors of the States, the Commonwealth of Puerto Rico, and other areas subject to the jurisdiction of the United States to join in this observance."

Water Skiing

Expert skiers say water skiing is as safe as a brisk game of croquet providing that when skiing you keep clear of piers, pilings, the shore and other boats.

Remember, if the operator is the only one in the boat, the skier must wear a life preserver.

Charts

You would not take off on a long automobile trip without taking along a road map. It is just as foolish to take a pleasure cruise without checking your nautical charts.

Charts of coastal waters and intercoastal waterways are available from the U. S. Coast and Geodetic Survey, Washington 25, D. C.

Charts of inland navigable waterways are available from your nearest division or district office of the U. S. Corps of Engineers.

Watch that Weather

Smart boatmen know that when small craft warnings are displayed, it is time to drop anchor. Bad weather is a signal for small boats to remain in ports.

If you are caught in a storm, reduce your speed, have all passengers put on life preservers and sit on the floorboards, near the centerline. Keep your boat headed into the wind as much as possible while heading for shore. Above all, keep calm, as most small craft can ride out a severe storm if handled properly.

Boating at a Glance

Actually, boating as you know it today has not reached maturity; it is not yet 20 years of age. Boating is a war baby, born in 1947 when the first annual unit sale of outboard motors went over the 500,000 mark. Boating has only recently become a sport of the masses.

Consequently, there are many people who are concerned that boating remains safe, that boating be maintained as a safe and enjoyable form of recreation. National Safe Boating Week is one of the main efforts to insure this happy outcome.

Boating has built a remarkable safety record because interested groups in the sport have concentrated on the natural desire of everyone to excel at what he is doing, and thus win the admiration of his fellows.

Statistics show no increase in serious boating accidents. To continue this fine record, all of us with an interest in boating safety must hew to the line which has proved so successful in the past. Avoid the hysterical approach and continue soberly and calmly to remind boaters of the simple rules of common sense which lead to safe boat handling and greater enjoyment.

Boating is more fun if you do it right, and proper equipment is vital to competent boat handling, says Flipper the Skipper, spokesman for the National Safe Boating Week Committee. How many of the 13 items of recommended equipment shown can you name? (turn for answer)

❶ Fenders; ❷ gas can; ❸ life saving device; ❹ whistle; ❺ paddle; ❻ bilge pump; ❼ flashlight; ❽ anchor; ❾ first aid kit; ❿ compass; ⓫ fire extinguisher; ⓬ tool kit; ⓭ line.

NATIONAL SAFE BOATING WEEK / JUNE 30 JULY 6

REMEMBER THE *BIG ONES* FOREVER . . .

with a Virginia Wildlife

TROPHY FISH CITATION!

MINIMUM CITATION SIZES:

Largemouth Bass	7 lbs.	Crappie	3 lbs.	Other Trout	5 lbs.
Smallmouth Bass	4 lbs.	Striped Bass	10 lbs.	Channel Cat	10 lbs.
Kentucky Bass	3 lbs.	Pickerel	4 lbs.	Flathead Cat	20 lbs.
Sunfish	1 lb.	Walleye	8 lbs.	Carp	20 lbs.
Rock Bass	1 lb.	Brook Trout	3 lbs.	Gar	10 lbs.
White Bass	2 lbs.			Grindel	10 lbs.

APPLICATION FOR VIRGINIA FRESHWATER FISH CITATION

Angler's Name _____

Address _____

City _____ Zone _____ State _____

Kind of fish _____ Weight _____ lbs. _____ az; Length _____ inches

Where caught _____ Date caught _____

Weighed at _____ (store ar ather public scales)

Weighing witnessed by _____, _____
Signature Address

How caught—Fly Rad ☐ Spinning Rod ☐ Casting Rod ☐ Trat Line ☐ Other_____

COMMISSION OF GAME AND INLAND FISHERIES
P. O. BOX 1642
RICHMOND 13, VIRGINIA

RULES:

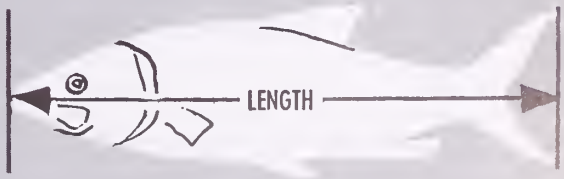
Fish must be caught in Virginia Waters by legal methods during seasons open for the taking of the species involved.

Fish must be weighed at a public scales that is periodically inspected by the Commonwealth of Virginia.

Photographs are desirable as further proof of authenticity but are not required.

Non-residents as well as residents are eligible for citations if fish are caught under the above conditions.

HOW TO MEASURE:



BOAT OWNERS!

IS YOUR MOTORBOAT NUMBERED?

Under the Virginia Boating Safety Act, all boats powered by motors of 10 h.p. or more must have a Virginia registration number

NUMBERS . . .

at least three inches high must . . . be displayed on each side of boat's bow with hyphens or full letter spaces between letters and numerals.

OBTAIN AN APPLICATION FORM

at any fishing or hunting license agency, city or county clerk, sporting goods store, boat dealership or marina

SEND APPLICATION

and $5.00 for three year registration to:

BOAT SECTION

Commission of Game & Inland Fisheries
P.O. Box 1642 • Richmond 13, Virginia